

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

REMARKS/ARGUMENTS

The Office Action mailed January 3, 2007 has been received and the Examiner's comments carefully reviewed. The Office Action rejected claims 1-64. Claims 1, 13, 19, 28, 34, 40, 50 and 51 have been amended. No new matter has been added. For at least the following reasons, Applicants respectfully submit that the presently pending claims are in condition for allowance.

Claim Rejections 35 U.S.C. 101

Claims 28-39 are rejected under 35 U.S.C.101 because the claimed invention is directed to non-statutory subject matter. The Office Action states that "Claims 28-39 does not exhibit any functional interrelationship and therefore does not constitute a statutory process, machine or manufacture." The Applicants have amended Independent Claims 28 and 34 and respectfully request the rejection be withdrawn.

Claim Rejections 35 U.S.C. 102

Claims 1-5,7-10,13-27,40,41,43-49,51 and 56-64 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,721,740 to Skinner et al (hereinafter Skinner).

With regard to Claim 1 the Office Action states that "Skinner teaches a computer-implemented method for a client to interact with a server (figures 2/3/5/8/9), the computer-implemented method comprising: creating a cached object from an original object (Col. 13 Ln. 64 - 67, Col. 15 Ln. 20-27), the original object being managed by the server ("... data object... application server..." Col. 11 Ln. 18 - 21); and establishing a notification bond (interest object)

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

with the server ("... registering an interest object..." Col. 2 Ln. 54 - 65, Observable 400 Col. 9 Ln. 20 - 26, figure 6 Col. 12 Ln. 56 - 67, Col. 13 Ln. 1 - 16), the notification bond enabling the client to obtain a notification from the server in response to an object related event associated with the original object ("... interest object..." Col. 3 L. 1 - 11, Col. 8 Ln. 23 - 43, Ln. 52 - 67). The Applicants respectfully disagree but have amended the independent claims to more clearly define the invention and to further the prosecution of this matter.

As amended, Claim 1 recites in part "creating a cached object from an original object, the original object being managed by the server; wherein the client interacts with a plurality of cached objects that are created on the client from objects managed by the server; establishing a notification bond with the server, the notification bond enabling the client to obtain a notification from the server in response to an object related event associated with the original object; wherein the notification bond remains persistent through a reboot of the client and server; and wherein each object includes a notification bond; and updating each of the cached objects with the original objects after a change is made to the original object. In contrast, the cited art does not teach persisting a notification bond through a reboot and updating each of the cached objects when a change is made to an original object.

At col. 15, lines 41-49, Skinner recites "Within update management component 304A, interest objects are used as previously described to indicate that one or more components are "interested" in actions involving a particular data object or set of data objects. These interest objects can thus be used to determine which cache objects are subject to registered interest and which are not. Those cache objects for which no interest objects are registered may be removed

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

from the hash table and garbage collected to achieve more efficient cache performance." In other words, Skinner teaches that not all of the objects are objects of interest. Therefore, changes to these objects do not get tracked.

The Office Action also states in the rejection for Claim 8 that "Skinner teaches the computer-implemented method of claim 7, wherein the states are maintained in a persistent medium ("...registry..." Col. 3 Ln. 1 -24, Col. 8 Ln. 23 - 43, Col. 10 Ln. 25 - 47, "...server interest registry... interest object..." Col. 11 Ln. 5 - 45)." The Applicants respectfully disagree. Skinner merely stores the interest for an object within a standard programming object and not within a persistent memory.

The Applicants submit that Skinner does not teach persistent storage. At col. 10, lines 40-65, Skinner states that "FIGS. 5A and 5B illustrate interest registries for an application server and a client, respectively. In each case, the interest registry is managed by an update management component. Whereas the interest registry for the client resolves update notifications for specific application components, the interest registry for the server need only resolve update notifications to the level of the individual clients. FIG. 5A comprises root node 500, which is coupled to a Client A interest object, a Client B interest object and a Client C/Server X interest object. The Client C/Server X interest object refers to an interest object registered with root node 500 for a third client ("Client C") or another application server ("Server X"). The respective client or server, or a component acting on behalf of the client or server, is registered as an observer of the respective interest object. A group of interest objects 501 are registered under the Client A interest object; a group of interest objects 502 are registered under the Client B

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

interest object, and a group of interest objects 503 are registered under the Client C/Server X interest object. Interest objects for components within the subject application server (i.e., the server containing the present server interest registry) may register with root node 500, and extend via sub-interests. However, interest objects for components of the subject application server are not shown in FIG. 5A for clarity.” As described within Skinner this registry is not persistent memory. Skinner does not teach storing the interest within a permanent location of the computer where computer applications store various data. Instead, the registry Skinner discusses is stored under an object that is stored within RAM as is well known. Therefore, this registry described in Skinner is not a persistent memory. Since the cited art does not teach the above recitations including persisting a notification bond through a reboot and updating each of the cached objects when a change is made to an original object, Claim 1 is proposed to be allowable. Claims 2-12 are proposed to be allowable as they depend from a valid base claims.

Amended Claim 13 recites in part “establishing a notification bond with the client, the notification bond enabling the client to obtain a notification from the server in response to an object related event associated with an object; wherein the notification bond remains persistent through a reboot.” Claim 13 is proposed to be allowable since the cited art does not teach that the notification bond remains persistent through a reboot. Claims 14-18 are proposed to be allowable as they depend from a valid base claims.

Claim 19 as amended recites in part “a server configured to manage original objects, the server including a bond manager configured to issue notification bonds to clients, each notification bond enabling a client to obtain a notification from the server in response to an

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

object related event associated with an original object; wherein the notification bonds remain persistent through a reboot.” Claim 19 is proposed to be allowable since the cited art does not teach that the notification bonds remain persistent through a reboot. Claims 20-27 are proposed to be allowable as they depend from a valid base claims.

Amended Claim 28 recites in part “wherein the first indexing data field and the second data field are created by the server and wherein the server accesses the first indexing data field and the second data field to determine what objects on the client require notification and wherein the notification bond remains persistent through a reboot.” Claim 28 is proposed to be allowable for at least the reasons presented above. Claims 29-33 are proposed to be allowable as they depend from a valid base claims.

Amended Claim 34 recite in part “wherein the first indexing data field and the second data field are accessed by a computing device and wherein the computing device uses the first indexing data field and the second data field in updating objects and wherein the notification bond remains persistent through a reboot.” Claim 34 is proposed to be allowable for at least the reasons presented above. Claims 35-39 are proposed to be allowable as they depend from a valid base claims.

Amended Claim 40 recites in part “wherein the client includes means for interacting with a plurality of cached objects that are created on the client from objects managed by the server and means for establishing a notification bond with the server and the client, the notification bond enabling the client to obtain a notification from the server in response to an object related event associated with the original object; wherein the notification bond remains persistent

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

through a reboot; and updating each of the cached objects with the original objects after a change is made to the original object.” Claim 40 is proposed to be allowable for at least the reasons presented above. Claims 41-49 are proposed to be allowable as they depend from a valid base claims.

Amended Claim 50 recites in part “establishing a notification bond with the server for each of the cached objects, the notification bonds enabling the client to obtain a notification from the server in response to an object related event associated with the original object; wherein the notification bond remains persistent through a reboot of the client and server; and wherein each object includes a notification bond.” Claim 50 is proposed to be allowable for at least the reasons presented above.

Amended Claim 51 recites in part “establishing a notification bond with the server for each of the cached objects, the notification bonds enabling the client to obtain a notification from the server in response to an object related event associated with the original object; wherein the notification bond remains persistent through a reboot of the client and server; and wherein each object includes a notification bond.” Claim 51 is proposed to be allowable for at least the reasons presented above. Claims 52-64 are proposed to be allowable as they depend from a valid base claims.

Conclusion

In view of the foregoing amendments and remarks, all pending claims are believed to be allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is

App. No. 10/600,787
Amendment Dated: June 4, 2007
Reply to Office Action of January 3, 2007

respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the applicant at the telephone number provided below.

Respectfully submitted,

MERCHANT & GOULD P.C.



Timothy P. Sullivan
Registration No. 47,981
Direct Dial: 206.342.6254

MERCHANT & GOULD P.C.
P. O. Box 2903
Minneapolis, Minnesota 55402-0903
206.342.6200

